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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Hiroaki IWAMOTO et al.   Group Art Unit : Not Yet Assigned

Appl. No. : 10/549,318 (U.S. National Stage PCT/JP2004/016598)

Filed : November 10, 2003   Examiner : Not Yet Assigned

For : RECORDING MEDIUM, REPRODUCTION DEVICE, PROGRAM, REPRODUCTION METHOD, AND SYSTEM INTEGRATED CIRCUIT

PETITION PURSUANT TO M.P.E.P. §708.02(VIII) FOR ACCELERATED EXAMINATION

Commissioner for Patents
U.S. Patent and Trademark Office
Customer Service Window, Mail Stop Petitions
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

Applicants herewith petition to accelerate examination of the above-captioned application. Applicants herewith submit the following information, in accordance with the requirements set forth in M.P.E.P. §708.02, Section VIII:

(A) Accompanied herewith this Petition is the required fee set forth in 37 C.F.R. §1.17(h);

(B) Applicants submit that claims 1-21 are directed to a single invention.

However, in the event that the U.S. Patent and Trademark Office determines that

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all the claims presented are not obviously directed to a single invention,

Applicants agree to make an election without traverse;

(C) A pre-examination search was made in the form of a Search Report

that was mailed in counterpart International Application No. PCT/JP2004/016598.

Applicants rely on the PCT Search Report, a copy of which was submitted in the

present application upon the filing of the present U.S. National Stage application

on September 16, 2005, and again in an Information Disclosure Statement filed

with the submission of the present Petition. The PCT Search Report lists the field

of search performed by the International Examiner.

(D) Applicants submit that the following documents are deemed most

closely related to the subject matter encompassed by the claims, copies of which

were submitted to the Examiner of the present application in the Information

Disclosure Statement:

(1)   Japanese Laid-Open Patent Publication No. 2002-369154,

along with English language U.S. Patent Application Publication No. 2002-

0194618;

(2)   Japanese Laid-Open Patent Publication No. 2003-249057, along

with English language counterpart U.S. Patent Application Publication No. 2003-

0161615;

(3) Japanese Laid-Open Patent Publication No. HEI 6-4166;

(4) Japanese Laid-Open Patent Publication No. HEI 6-230946;

(5) Japanese Laid-Open Patent Publication No. 2002-262233;

(6) Japanese Laid-Open Patent Publication No. 2001-56772;

(7) Japanese Laid-Open Patent Publication No. HEI 10-293703;

(8) Japanese Laid-Open Patent Publication No. 2002-63051;

(9) Japanese Laid-Open Patent Publication No. HEI 11-161663,

along with English language counterpart U.S. Patent 6,580,870; and

(10) Japanese Laid-Open Patent Publication No. 2003-123389.

(E) Applicants herewith provide the following detailed discussion of the above-mentioned references, pointing out how the claimed subject matter is patentable over the references:

The present application includes claims 1-21, of which claims 1, 8, 19, 20 and 21 are independent claims. The independent claims recite features that Applicants submit are not anticipated, suggested, or rendered obvious by the references listed in Section (D), above.

Independent claim 1 recites a recording medium in which an application, a digital stream, and management information are recorded, in which the application is a program that is written in a programming language for a virtual machine; a life cycle during which the application can be executed by the virtual

machine is specified; and the management information indicates a playback control of the digital stream that is performed during the life cycle simultaneously with the execution of the application.

Independent claim 8 recites a playback apparatus, in which a virtual machine unit is operable to execute an application that is recorded in a recording medium; a playback control engine unit that is operable to play back a digital stream that is recorded in the recording medium; and an application manager that is operable to cause the virtual machine unit to execute the application when a life cycle of the application is reached, and at a same time, cause the playback control engine unit to play back the digital stream in accordance with management information that is recorded in the recording medium.

Independent claim 19 recites a program that is read into a computer that includes a virtual machine unit operable to execute an application that is recorded in a recording medium, and a playback control engine unit operable to play back a digital stream that is recorded in the recording medium, the program causing the computer to cause the virtual machine unit to execute the application when a life cycle of the application is reached, and at the same time, cause the playback control engine unit to play back the digital stream in accordance with management information that is recorded in the recording medium.

Independent claim 20 recites a playback method for a computer that includes a virtual machine unit operable to execute an application that is recorded in a recording medium, and a playback control engine unit operable to play back a digital stream that is recorded in the recording medium, the playback method having the computer cause the virtual machine unit to execute the application when a life cycle of the application is reached, and at the same time, cause the playback control engine unit to play back the digital stream in accordance with management information that is recorded in the recording medium.

Independent claim 21 recites a system integrated circuit that is embedded into a playback apparatus that plays back a digital stream, comprising a virtual machine unit that is operable to execute an application that is recorded in a recording medium; and an application manager that is operable to cause the virtual machine unit to execute the application when a life cycle of the application is reached, and at a same time, cause the playback control engine unit to play back the digital stream in accordance with management information that is recorded in the recording medium.

Applicants submit that at least the above features recited in claims 1, 8, 19, 20 and 21 are not disclosed or suggested by documents (1) to (10), noted above, either individually or in combination, for the following reasons:

The operation of JAVA^{TM} applications is unstable where the operation status changes depending on the resource use status and the CPU load. Therefore, resource shortages occur often, which results in the failure of an application to start-up, or causes the application to abnormally terminate. Such failure results in an abnormal (such as, for example, blank) screen being displayed. While this may not be regarded as a serious problem in the personal computer software industry, such is not the case with consumer electronic products, such as, but not limited to, for example, BD-ROM playback apparatus.

According to a feature of the claimed invention, management information indicates the playback control of a digital stream that is performed during a life cycle simultaneously with the execution of the application.

According to an embodiment of the invention, playback control of the digital stream, which is performed simultaneously with the execution of the application, is defined for each life cycle. If a start-up failure of the application occurs, or if the application abnormally terminates in the middle of the execution of the application, the simultaneously performed playback of the digital stream continues, thus providing the appearance of something being displayed on a screen. This prevents a worst case scenario of displaying an abnormal (e.g., blank) image, thus, providing a minimum sense of assurance to the maker of the apparatus. This is important to the manufacturers of consumer electronic

products, who are nervous about the development of playback apparatuses controlled by a Java™ application.

The 2002-369154 publication (document (1)), above, discloses enabling playback apparatus to execute a playback tool that plays back a content and executes an expanded application using a content. Applicants submit that this document fails to disclose or suggest correlating the playback control of the digital stream with the life cycle of the application in advance in case an abnormality occurs in the application, as recited in the above-mentioned features recited in combination in Independent claims 1, 8, 19, 20 and 21.

The 2003-249057 publication (document (2)), above, discloses playing back an enhanced video content in synchronization with a video content, in which the video content is used in conjunction with another data object. Applicants submit that this document fails to disclose or suggest correlating the playback control of the digital stream with the life cycle of the application in advance in case an abnormality occurs in the application, as recited in the above-mentioned features recited in combination in independent claims 1, 8, 19, 20 and 21.

The 6-4166 publication (document (3)), above, discloses dividing and executing a job after setting an operation start date and an operation end date for the job, allowing a program to have a period in which the program is operated. Applicants submit that this document fails to disclose or suggest correlating the

playback control of the digital stream with the life cycle of the application in advance in case an abnormality occurs in the application, as recited in the above-mentioned features recited in combination in independent claims 1, 8, 19, 20 and 21.

The 6-230946 publication (document (4)), above, discloses setting a condition for starting a program so that the program can be started when the condition is satisfied. Applicants submit that this document fails to disclose or suggest correlating the playback control of the digital stream with the life cycle of the application in advance in case an abnormality occurs in the application, as recited in the above-mentioned features recited in combination in independent claims 1, 8, 19, 20 and 21.

The 2002-262233 publication (document (5)), above, discloses automatically playing back a plurality of pieces of media data (e.g., predetermined types of data) in synchronization with each other. Applicants submit that this document fails to disclose or suggest correlating the playback control of the digital stream with the life cycle of the application in advance in case an abnormality occurs in the application, as recited in the above-mentioned features recited in combination in independent claims 1, 8, 19, 20 and 21.

The 2001-56772 publication (document (6)), above, discloses detecting the occurrence of an abnormality by comparing monitor information obtained in real

time when a program is operated, with monitor information that has been obtained in advance with the normal operation of the program. Applicants submit that this document fails to disclose or suggest correlating the playback control of the digital stream with the life cycle of the application in advance in case an abnormality occurs in the application, as recited in the above-mentioned features recited in combination in independent claims 1, 8, 19, 20 and 21.

The 10-293703 publication (document (7)), above, discloses detecting a runaway state of a microcomputer or I/O port, and initializing an apparatus to handle the abnormality. Applicants submit that this document fails to disclose or suggest correlating the playback control of the digital stream with the life cycle of the application in advance in case an abnormality occurs in the application, as recited in the above-mentioned features recited in combination in independent claims 1, 8, 19, 20 and 21.

The 2002-63051 publication (document (8)), above, discloses detecting an occurrence of an abnormality of a control apparatus that is embedded in a server system, and handling the abnormality by rebooting the apparatus upon detection of the abnormality. Applicants submit that this document fails to disclose or suggest correlating the playback control of the digital stream with the life cycle of the application in advance in case an abnormality occurs in the application, as

recited in the above-mentioned features recited in combination in independent claims 1, 8, 19, 20 and 21.

The 11-161663 publication (document (9)), above, discloses using video content in conjunction with another data object, by preliminarily writing a URL into a navigation pack embedded in a video object, such that a moving picture is played back in conjunction with an HTML content that is reached from the URL. Applicants submit that this document fails to disclose or suggest correlating the playback control of the digital stream with the life cycle of the application in advance in case an abnormality occurs in the application, as recited in the above-mentioned features recited in combination in independent claims 1, 8, 19, 20 and 21.

The 2003-123389 publication (document (10)), above, discloses setting a security code in both a directory and a play list, where the security code is used for authenticating the user. If the user has been authenticated by the security code on the directory side, an authentication on the play list side using the security code is omitted. The play list indicates a playback route of a digital stream, and describes the playback control using the play list. Applicants submit that this document fails to disclose or suggest correlating the playback control of the digital stream with the life cycle of the application in advance in case an

abnormality occurs in the application, as recited in the above-mentioned features recited in combination in independent clams 1, 8, 19, 20 and 21.

Documents (1) through (10), above, recite technologies that are submitted to be basic assumptions of the present invention, such as, but not limited to, for example, applications, handling of an abnormality, and the playback control of a digital stream. However, Applicants submit that none of the above documents disclose or suggest correlating the playback control of the digital stream with the life cycle of the application in advance in case an abnormality occurs in the application.

In view of the above, Applicants submit that independent claims 1, 8, 19, 20 and 21, along with the claims dependent therefrom, are not anticipated by any of the above-mentioned references. Further, Applicants submit that the above-noted distinctions are such that a person having ordinary skill in the art at the time of Applicants' invention would not have been motivated to modify or combine any of the above-mentioned references in such a manner so as to result in, or otherwise, render obvious, the present invention, as defined by claims 1-21. Accordingly, Applicants submit that claims 1-21 are allowable over the above-mentioned prior art references.
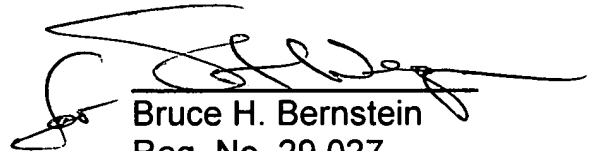
Applicants submit that the present Petition complies with all of the requirements (A) through (E) set forth in M.P.E.P. §708.02(VIII). Accordingly,

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Applicants respectfully request that this Petition For Accelerated Examination be granted and the examination of this application be accelerated.

Moreover, for at least the reasons set forth in (E), above, it is submitted that the present application is allowable over the prior art of record, and Applicants respectfully request such an indication from the Examiner.

Should there be any questions or comments, the Examiner is respectfully requested to contact Applicants' U.S. counsel at the below-listed telephone number in order to promptly resolve any such matters.

Respectfully submitted,
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